

REVISION OF THE AMYCTERIDES.

PART IV. *Sclerorinus* [Section i.]. [COLEOPTERA].

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(Continued from Vol. xxxix., p.252.)

SCLERORINUS* Macleay.

Macleay, Trans. Ent. Soc. N. S. Wales, i., 245, 1865.

Form elongate, subparallel, or elliptical; size moderate to large, female generally larger and more robust than the male; black, elytral tubercles sometimes reddish; clothing variable.

Head convex, generally separated from rostrum by a feeble transverse impression above, the rostral ridges frequently extending on to the forehead. Rostrum comparatively short, thick, little excavate above; upper surface bounded by subparallel external ridges; median area not depressed, carinate; sublateral sulci broad, shallow, with deeper basal foveæ. Prothorax generally dilate or subdilute on the sides, very little produced above, with well-developed ocular lobes; granulate. Elytra gently rounded on sides, base gently emarginate; disc puncto-striate or foveo-striate; interstices tuberculate, occasionally subcostate, the alternate interstices sometimes without tubercles.

♂. Ventral surface either (1), maculate, with a median channel on the fifth segment; or (2), with a median hirsute vitta, the fifth segment not depressed.

* *Sclerorinus* is the original spelling, as it appears in the Transactions of the Entomological Society of New South Wales. In Gemminger and Harold's Catalogue, it appears as *Sclerorrhinus*, from *sclerus*=*durus*, and *rhinus*=*nasus*; this spelling has been followed by Masters, and later by Lea. Although this would be the correct spelling if the derivation be correct, I think that it is by no means certain that Macleay was alluding to the character of the rostrum, and not merely using the termination—*inus*. The spelling *Sclerorrhinus*, as used by Pascoe, Sloane, and Blackburn, is in any case erroneous.

♀. More robust than male. Ventral surface convex.

This genus was proposed, by Macleay, for what must be regarded, on the whole, as a very homogeneous group of species, "the greater number [of which], and all the more typical ones, are inhabitants of the great basin of the interior, which has its outlet in the colony of South Australia." Macleay, in his remarks on the genus, says—"the main feature of the genus is the broad flat rostrum, with a central ridge extending in most cases to the vertex." While this is true of the typical species, there are cases, however, where the centre of the rostrum cannot strictly be called carinate. As there are, at present, included in *Talaurinus*, many species in which the internal rostral ridges are obsolete, confusion of the genera may arise, and, in the past, has arisen. It seems to me, however, after examining large series of specimens, that, in cases where doubt might arise, the obvious affinities of the species are sufficient to indicate their true position; and, although the median area may not be distinctly carinate, it is generally raised, or convex, and never depressed, or sulciform, as it is so generally in *Talaurinus*.

The lateral, or, more correctly, the sublateral, sulci are broad, and extend for the greater part of the rostrum, generally with a deeper basal fovea; in some species, however, through the subtriangular elevation of the median area, the sulci are practically limited to these basal foveæ. Internal ridges are never present, though the edges of the median area, being often marked by vittæ, may give the appearance of internal ridges. The scrobes and the relative position of the eyes do not exhibit any great degree of variation. The prothorax is generally more or less ampliate on the sides, and the ocular lobes are, on the whole, fairly strongly marked; the granules or tubercles on the disc vary, and are not always constant in shape or size in the same species.

The elytra do not present the wide divergence in sculpture so characteristic of *Talaurinus*; practically all the species may be described as tuberculate. The tuberculation, however, is variable, the tubercles in some species being small and granuliform; in others, showing a tendency to coalesce to form costæ; in all cases,

the fundamental tuberculiform nature of the structure is traceable.

The tubercles occur practically always in single series, almost the only exception known to me, being a tendency in some species of the *sabulosus*-type towards reduplication in the middle of the third interstice, this, however, being an individual variation, and not constant in the species, or on both sides of the same specimen. The third interstice is generally, and the sixth almost invariably, continuously tuberculate; the second and fourth always have fewer, and may have no, tubercles; while the fifth is very variable, sometimes continuously tuberculate, in other species only at the humeral angle. The seriate punctures are small and shallow, often completely obscured, and almost invariably never foveiform; the only exception being in the aberrant *convexus*-group, where the punctures are large and foveiform. One other point in the elytral sculpture may be mentioned here, as I have made use of it in grouping the species; that is the approximation, in some species, of the third elytral interstices on the declivity; in these species, the second interstice is crowded out on the declivity; in other cases, the second interstice (though not necessarily the tubercles) is continued to the apex.

The ventral surface presents two forms of structure, in the male, which I regard as of primary importance in the classification of the genus. In the first section, the ventral segments are more or less strongly maculate, with short subpubescence, near the centre; and the apical segment, in the male, is channelled in the middle, the channel being bordered, as a rule, on either side by a small elevation. In the other section, the fifth segment is not excavate, but there is a strong median ventral vitta of long setose hair, extending from the metasternum to the apex of the abdomen. The metasternum is short, but presents no special features.

The legs are moderately long; the anterior femora, in many species, bear a narrow ridge along the outer half of the under-surface. In the male of some species, the middle tibiæ have a strong subapical emargination; the posterior tibiæ are similarly

notched in the *subcostatus*-group. The anterior tarsi are comparatively short, and the posterior elongate. In some species, the undersurface, on each side of the median channel, is spongiöse; this is most marked in *S. tristis* and its allies. The posterior tarsi generally bear long, setose bristles.

The male genitalia vary a good deal in different species; more dissections are required, however, before it will be possible to assess the value of the differences in grouping the species. In all, the forceps are short, bluntly acuminate, with the apex set with stout bristles, and chitinous. In some species, the two parts of the forceps are separate, or only united at the base by membrane; in others, there is a thin, chitinous septum uniting the two halves. In some species, there is a median vertical plate present, as in *Psalidura*, the lower border of which divides behind into two rami, attached to the ends of the forceps; in other species, there is no such plate. The penis varies in different species, but is of the same general type as in other Amycterides. Pending further dissections, I have not described these structures in detail, as they appear in the few specimens so far dissected. I believe, however, that they will prove of taxonomic importance, though, unless differences in the genitalia are correlated with differences in elytral or other external structure, they will not be of much service in identifying species.

Among the Amycterides described previous to the institution of the genus, only eleven can be referred to *Sclerorinus*; and, of these, the names of three must be regarded as synonyms.

Curculio bubalus Olivier (Ent. v. 83, p.399, t.25, f.354) is certainly a *Sclerorinus*, and a common Tasmanian species.

Hipporhinus nigrospinosus Don., (Epitom. Ins. N. Holl., 1805) is, from the figure, clearly a *Sclerorinus*.

Boisduval (Voy. Astrolabe, ii., 1835) described four species which appear to belong to the present genus. *Amycterus morosus* (*loc. cit.*, p.386), though long regarded as a Cubicorrhynchus, is a *Sclerorinus*, and synonymous with *S. bubalus* Oliv. *S. carinatus* (*loc. cit.*, p.385) is probably synonymous with *S. nigrospinosus* Don. *S. tristis* (*loc. cit.*, p.388) is a well known Tasmanian and Victorian species. *S. dolens* (*loc. cit.*, p.376) is unknown to me.

Amycterus Kirbyi Guérin, (Voy. Coquille, ii., (2), 1830, p.121) is a species of *Sclerorhinus*, and, almost certainly, conspecific with *S. subcostatus* Macleay. The name *Kirbyi* would appear to be preoccupied by the *Psalidura Kirbyi* of W. S. Macleay (King's Survey, App. ii., p.444, 1827), *Psalidura* being, at that time, regarded as synonymous with *Amycterus*. Later, *Psalidura Kirbyi* W. S. Macleay, was transferred to *Talaurinus*, but I do not think that Guérin's name can now be revived for the *Sclerorhinus*. Bohemann (Schönn., Gen. Insect. vii. (1), 1843) described, among other species of *Amycterus*, three which belong to *Sclerorhinus* — *A. elongatus*, *A. Hopei*, and *A. Spencei*. Fuller reference will be made to these species later.

Germar (Linn. Ent. iii., 1848, p.217) described a single species, *S. sublineatus*, which is common in South Australia.

Macleay (Trans. Ent. Soc. N. S. Wales, i., 1865) proposed the genus, and added the names of thirty-six new species. Subsequently, he described nine others (*loc. cit.*, 1866, pp.322-6). There can be no doubt that Macleay relied far too much on variable points of structure in separating his species, consequently the list of synonyms is a heavy one; but, even with his types before me, and with fairly extensive series of most species, I have found it difficult, in some cases, to decide as to the validity of a species. I regard the following synonymy as fairly certain; fuller reference to some of the discarded species will be made under the specific descriptions.

S. Adelaïda = *S. nodulosus* and *S. divaricatus*; *S. Waterhousei* = *S. interioris*; *S. Angasi* and *S. rugicollis* are fairly certainly referable to *S. vittatus*; while I regard *S. conspersus* and *S. fuscus* as variations of the same species; *S. confusus*, distinguished mainly by its light-coloured setæ, is also doubtfully distinct from *S. vittatus*; *S. sordidus* and *S. acuminatus* are evidently sexes of the same species; *S. asper* and *S. Howitti* I cannot separate from *S. tristis* Boisd.; *S. sabulosus* and *S. arenosus* are the same; *S. angustatus* is a small male of *S. exilis*, with lighter-coloured setæ; *S. subcostatus* = *S. vermiculatus*; *S. interruptus* is a form of *S. subsequens*, a variable species. *S. Riverinae* is possibly not a *Sclerorhinus*; if the species be referred to *Talaurinus*, the synonym

alternus must be used, as *T. Riverinae* is already preoccupied. The type of *S. mucronatus* has been mislaid, but I think the species will prove to be synonymous with *S. tuberculosus*.

In accordance with my plan, I have endeavoured to redescribe Macleay's species from the types; owing to alterations in the Macleay Museum, I have been unable to do this in all cases, and I have been compelled to redescribe several from my own specimens, all of which, however, have been compared with the types.

Pascoe (Journ. Linn. Soc., xii., 1873) described, as new, five species of *Sclerorhinus*—*S. teniatus*, *S. marginatus*, *S. echinops*, *S. meliceps*, and *S. molestus*; also, as a *Talaurinus*, *T. molossus*, a species which I would refer to *Sclerorhinus*. Of these species, *S. teniatus* = *S. Stewarti* Macl.; *S. marginatus* = *S. sublineatus* Germ.; while *S. echinops* appears to belong to *Talaurinus*. *S. molossus* and *S. molestus* belong to the *sabulosus*-group, while *S. meliceps* from Queensland is unknown to me.

Sloane (Trans. Roy. Soc. S. Aust., xvi.), among the Amycterini of the Elder Expedition, described three species of *Sclerorhinus*—*S. Elderi*, *S. occidentalis*, and *S. angustipennis*, the types of which have been kindly lent to me for examination by the authorities of the South Australian Museum; they are all distinct species of the *sabulosus*-group. *S. Elderi* is most nearly allied to *S. molossus* Pasc., while *S. occidentalis* and *S. angustipennis* are closely allied, *inter se*, and come nearest to *S. molestus*. In addition to these, Sloane (*loc. cit.*) described several species of *Talaurinus*, some of which certainly appear to be more at home in *Sclerorhinus*. Of these, Blackburn (Report of the Horn Exped., Part ii., p.291) has referred *T. convexus* to *Sclerorhinus*. I would also refer *T. insignis* and *T. noctis* to the same genus. Of the true position of *T. obscurus*, I have considerable doubt. Mr. Sloane regarded it as closely allied to *S. convexus* and the other two species, and the general structure is very similar; but the rostral characters are certainly more suggestive of *Talaurinus* than *Sclerorhinus*, whereas, in the other three species, the reverse is the case. Unfortunately, the type is a female, and at present remains the unique example of the species known; the discovery of the male would probably throw light on its position. I believe

a new genus is required for its reception, but, until the male is known, I am content to leave it in *Talaurinus*.

Lea (Mém. Soc. Ent. Belg., 1910, p.77) described a single species from Mt. Kosciusko, *S. inconstans*, a member of the *vestitus*-group. He also (Deutsch. Ent. Zeitschr., 1910, p.161) described a species, *S. multigranulatus*, which I have already referred to *Talaurinus*.*

Within recent years, a number of species have been described by myself. Of these, *S. amycteroides* (Proc. Roy. Soc. Victoria, 1914, p.254) is a member of Group ii.; *S. regularis*, *S. neglectus*, and *S. albovittatus* (Trans. Roy. Soc. S. Australia, 1914) belong to Group i; *S. Blackburni*, *S. alpicola*, and *S. mucronipennis* (*loc. cit.*) to Group v.; while the descriptions of three other species, *S. inornatus*, *S. Dixoni*, and *S. Goudiei* have been sent to the Royal Society of Victoria for publication.†

In Masters' Catalogue, 54 species of *Sclerorhinus* are listed; three (*S. carinatus* Boisd., *S. hopei* Bohem., *S. Spencei* Bohem.,) are included under *Psolidura*; one (*S. molossus* Pasc.) under *Talaurinus*, and one (*S. nigrospinosus* Don.) under *Hipporhinus*. To this number, 18 have been added of recent years. The removal of synonyms, doubtfully valid species, and species removed to other genera, reduces the number to 54. To these are now added seven new species, making a total of 61. It is possible, however, that some of the names on the unidentified list will be found to belong to well-known species, in which case the number of species will be further reduced.

Classification.—In such a comparatively homogeneous genus, there is little difficulty in arriving at a fairly satisfactory grouping of the species. In *Talaurinus*, this will always be the great difficulty, and even if that genus be subdivided, it will always be hard to assign some species to their correct position. In *Sclerorhinus*, on the other hand, the chief stumbling block lies in the great variability of many species, so that it is hard to say

* These Proceedings, 1912, p.112.

† Since published, Proc. Roy. Soc. Victoria, 1915, pp.253-254.

what features can be regarded as of specific value; but the species, as a whole, fall into fairly definite groups.

Macleay, in his second paper, divided the genus into four Sections, depending upon the characters of the elytral interstices, in particular upon the fifth or humeral, termed by Macleay the fourth. At first sight, this would appear a satisfactory method, the genus being subdivided into the following groups:

1. Fourth interstice of the elytra closely and continuously tuberculated.

2. Fourth interstice not tuberculated, or only close to the shoulder.

3. Fourth interstice remotely tuberculated or slightly elevated.

4. Interstices of the elytra somewhat costate.

A closer examination of the species arranged by Macleay under these groups revealed the existence of several anomalies, and it seemed to me that some underlying primary factor had been overlooked. Such a factor, I think I have discovered in the characters of the ventral surface (in the male), two main types of structure existing in the genus. As a rule, it is not desirable to form primary divisions on sexual characters, but this seems unavoidable in the Amycterides. I would, therefore, divide the genus into two primary sections.

Section i.—Median ventral segments at most maculate, never vittate; fifth segment longitudinally channelled in the ♂.

Section ii.—Ventral surface with a strong, median, longitudinal vitta, fifth segment not channelled in the ♂.

The first Section comprises Group i., which may be conveniently termed the *Adelaidæ*-group, and it contains the type of the genus. The number of species belonging to the Section is comparatively small, so that I have not considered it necessary to subdivide them into groups, though they exhibit variation in characters utilised for further subdividing Section ii.

The second Section comprises the bulk of the species, and, for convenience, may be subdivided into four groups. The relations of the groups may be conveniently stated as follows:—

Section i.—No median ventral vitta, apical segment channelled in the ♂Group i.—*Adelaidæ*-group.

Section ii.—Median ventral vitta present.

A. Fifth interstice strongly tuberculate throughout.

B. Intermediate tibiæ not notched within apex.

C. Third interstices convergent on declivity.....

Group ii.—*sabulosus*-group.

CC. Third interstices subparallel on declivity.....

Group iii.—*Stutchburyi*-group.

BB. Intermediate tibiæ with strong subapical notch.....

Group iv.—*subcostatus*-group.

AA. Fifth interstice only tuberculate near humeral angle, or with only a few isolated tubercles.....Group v.—*vestitus*-group.

It is sometimes difficult, with single specimens, to determine the group to which they properly belong; for instance, members of the *Stutchburyi*-group may show some deficiency in the tuberculation of the fifth interstice, this being, in most cases, an individual variation, and readily corrected by the examination of a series. Besides the members of the *subcostatus*-group, a number of other species possess intermediate tibiæ with subapical emargination; some of these are members of the first Section, but others belong to the *vestitus*-group, and are separated from the members of the *subcostatus*-group by the character of the fifth interstice. *S. convexus*, *S. insignis*, and *S. noctis*, I have placed in the *sabulosus*-group, though they should, perhaps, constitute a separate subdivision; and, in places, I have alluded to these three species as the *convexus*-group.

The only species which do not lend themselves readily to this grouping are three in number.

1. *S. albovittatus* Ferg., a species in general facies resembling the *vestitus*-group, but probably an aberrant member of Section i.

2. *S. horridus* Macl., apparently related to the *vestitus*-group, but falling, according to my tabulation, into the *Stutchburyi*-group.

3. *S. Riverinæ* Macl., a species with a ventral surface not vittate nor maculate. Possibly it is not really a *Sclerorinus*.

Distribution.—While the majority of the species are inhabitants of the Eyrean subregion, in Victoria a number of species

have crossed over into the Bassian subregion. The route followed by these species seems to have been different from that followed by the species found to the north of the Dividing Range, in the Mallee-districts of Victoria. The species found in the Mallee-country are almost all different from those of Southern Victoria, although both types are found in South Australia. The southern forms have extended further into Tasmania.

The distribution of the genus may, perhaps, be most clearly indicated according to its component groups.

Group i. is strongly represented in South Australia by a majority of the species, extending, on the east, into the coastal and mountain-districts of Victoria and Tasmania, although the exact number of species found in Victoria is doubtful. In South Australia, the group appears to have its headquarters to the north of Spencer and St. Vincent Gulfs; further west, in Eyre's Peninsula, it is represented by the *dimidiatus*-subgroup, of which an isolated species occurs on the western seaboard of Western Australia. In New South Wales, another subgroup, of which *S. carinatus* is the only described species, extends along the southern mountains as far north as Orange.

Group ii. radiates from South Australia east into the Mallee-districts of Victoria, north into Central Australia (*convexus*-subgroup), and west into Western Australia. The majority of the West Australian species belong to this group.

Group iii. extends along the mountain-ridges of the Main Dividing Range in New South Wales, from the borders of Victoria into Queensland. Two other species, of somewhat dissimilar habit to the other members of the group, are, however, found in South Australia and Victoria, and one of them in Tasmania.

Group iv. appears to be limited to New South Wales; its distribution is rather along the tablelands and western slopes beyond the Dividing Range.

Group v. also belongs more properly to South Australia, extending thence into the adjoining parts of Victoria, and into Riverina in New South Wales. *S. queenslandicus* appears to belong to this group, which is further represented in the south-west of Queensland (Cunnamulla) by an undescribed species.

The distribution of the various groups within the States would probably repay investigation, but the data available to me are too scanty for more than generalisation.

South Australia contains the greater number of species of Groups i., ii., and v., and one or two examples of Group iii.

Central Australia has only an aberrant Subgroup of Group ii., so far recorded.

Western Australia has mostly representatives of Group ii., but a single species of Group i. occurs on the western seaboard, and also a representative (at present undescribed) of Group v.

Victoria has representatives of Groups i., ii., iii., and v. As noted above, the Mallee-fauna, which is characteristically South Australian, differs from that of the mountain-ranges and coastal districts.

Tasmania.—Two species have been described, both also found in Victoria, one a member of Group i., and the other of Group iii.

New South Wales.—Group i. is represented on the southern highlands; Group iii. along the whole length of the mountain-chain; and Group iv. on the tablelands, especially in the southern half of the State. Group v. is represented by one species at Mt Kosciusko, and another in Riverina.

Queensland.—Only two species have been described from this State *S. meliceps* Pasc., I am unable to place, while *S. queenslandicus* is an aberrant member of Group v.

It may be well to point out that the Amycterid fauna of the vast district lying to the west of the Darling, and of similar portions of Queensland, is quite unknown. The Northern Territory and North-West Australia also have never been searched for these insects, although I do not think that the genus will be found to extend to these regions.

Synonymy.

<i>S. Adelaide</i> Macl.	= <i>S. divaricatus</i> Macl.
	= <i>S. nodulosus</i> Macl.
<i>S. vittatus</i> Macl.	= <i>S. Angasi</i> Macl.
	= <i>S. rugicollis</i> Macl.
	= <i>S. conspersus</i> Macl.
	= <i>S. fuscus</i> Macl.

<i>S. Waterhousei</i> Macl.	= <i>S. interioris</i> Macl.
<i>S. sordidus</i> Macl.	= <i>S. acuminatus</i> Macl.
<i>S. tristis</i> Boisd.	= <i>S. asper</i> Macl.
	= <i>S. Howitti</i> Macl.
<i>S. sabulosus</i> Macl.	= <i>S. arenosus</i> Macl.
<i>S. sublineatus</i> Germ.	= <i>S. marginatus</i> Pasc.
<i>S. Stewarti</i> Macl.	= <i>S. tæniatus</i> Pasc.
<i>S. bubalus</i> Oliv.	= <i>S. morosus</i> Boisd.
<i>S. exilis</i> Macl.	= <i>S. angustatus</i> Macl.
<i>S. subcostatus</i> Macl.	= <i>S. vermiculatus</i> Macl.
	= (?) <i>S. Kirbyi</i> Guérin.
<i>S. subsequens</i> Macl.	= <i>S. interruptus</i> Macl.
<i>S. Riverinae</i> Macl.	= <i>S. alternus</i> Macl.

Doubtfully valid species.

S. confusus Macl.—The type is greatly abraded; the setæ are light-coloured, otherwise I should have little hesitation in sinking it as a synonym of *S. vittatus* Macl.

S. mucronatus Macl.—Under the name-label, in the Macleay Museum, is a female specimen of *S. vestitus*, which does not agree with the description or dimensions of *S. mucronatus*. Another specimen, labelled Victoria, but without a name-label, in the same Collection, agrees well with the description, and is probably the misplaced type. Apart from the mucronation, it does not differ materially from *S. tuberculosus* Macl.

S. carinatus Boisd.—Judging from the figure of the latter, this name should be a synonym of *S. nigrospinosus* Don.

Unidentified, or doubtfully identified species.

S. dolens Boisd.—May be the same as *S. subsequens* Macl.

S. elongatus Bohem.—Doubtfully identified from the Blue Mountains, N.S.W.

S. Hopei Bohem.—Doubtfully identified as a species found on the south-western slopes in New South Wales.

S. Spencei Bohem. - May be the same as *S. obliterated* Macl.

S. meliceps Pasc.—Unknown to me.

SECTION i.

Apical segment of abdomen with a median longitudinal channel in the ♂; no ventral vitta present.

I regard the species comprised in this Section as constituting but one group, although they fall into three subgroups, varying in the characters utilised in the second Section for subdividing into groups.

Subgroup A.—Species with all the elytral interstices tuberculate; the intermediate tibiæ simple.

Subgroup B.—Species with the intermediate tibiæ, in the ♂, with a strong subapical notch.

Subgroup C.—Species with the third and fifth interstices costiform, and the second and fourth neither tuberculate nor costiform.

The species of this Section have proved the most difficult to define satisfactorily in regard to their specific characters and range of variation. The separation off of the second and third Subgroups, still leaves a large number of species showing great variation, and running, the one into the other, in a most bewildering fashion. The confusion has not been lessened by the fact that a number of the species have been proposed for single specimens, many of which appear to be somewhat aberrant forms of commoner species; and of which, in some instances, I have not been able to procure an exactly identical specimen.

A feature of importance, previously overlooked by me, in the separation of the species, lies in the structure of the anterior tarsi. In *S. Adelaide*, for example, the three basal joints are subequal in width, each joint being symmetrical; whereas, in *S. tristis*, the third joint, and, to a less extent, the second, are asymmetrical, the inner portion being more expanded than the outer. My failure to note the two types of tarsal structure has led, in a former publication, to a misidentification of *S. sordidus* MacL. The type, fortunately, has the three basal joints of the anterior tarsi remaining on one side; these are as in *S. tristis*, and I have no doubt now that *S. sordidus* is the male of *S. acuminatus*.

The species with simple tarsi show a remarkable gradation in the size of the elytral tubercles, and, to a less extent, in the size

of the insect. *S. Waterhousei* is the largest and most conspicuously tuberculate, but grades down into *S. Adelaideæ*; this latter species, in turn, runs into *S. vittatus*, without any apparent line of demarcation.

Under *S. vittatus*, I have grouped a number of forms, most of them represented by single specimens, differing in the size and conspicuousness of the tubercles; among these are included *S. conspersus*, *S. fuscus*, and the form previously identified by me as *S. sordidus*. In view of the transition between the various forms, it is questionable whether they should not be regarded as constituting but one variable species; the extremes of the series are, however, very distinct; and I have thought it better to retain the names of the principal forms. It is possible that further collecting will show that some of the varieties, at present included under *S. vittatus*, are worthy of specific rank. There are, of course, one or two species with symmetrical tarsi, that are quite distinct.

The species with the third anterior tarsal joint asymmetrical are in a somewhat better position, though considerable confusion has, in the past, existed about them. *S. tristis*, I regard as typical of these species, and, with it, I unite *S. Howitti* and *S. asper* as synonyms. *S. sordidus* and *S. acuminatus*, I regard as sexes of the same species, and separate them from *S. tristis*. *S. inornatus* is also distinct from *S. tristis*. The position of *S. obliteratedus* is still open to question; the type is a female, and differs from the female of *S. tristis* in the structure of the apical ventral segment. There are two species before me, which possess a similar structure; one is *S. inornatus*, which has a more obliterate sculpture; and the other is a species from the Victorian Alps, which is rougher, but shows considerable variation in this respect. Tentatively, I regard this species as *S. obliteratedus*, but, as the male has simple tarsi, it should come in the first portion of the Group. It is possible that *S. obliteratedus* will be sunk ultimately as a synonym of *S. Spencei* Bohem.

In addition to the species described in this paper, I have seen a number of others, differing in various features, and represented

mostly by single specimens, which I have thought better to leave undescribed for the present.

Of the species with deeply emarginate intermediate tibiæ, *S. Mastersi* is the most distinct. The others are closely related, *inter se*, and might, perhaps, be more properly regarded as geographical or local races.

Subgroup C contains, at present, but one described species.

Table of Species, Group i.

Subgroup A.—Elytral interstices all more or less tuberculate; intermediate tibiæ not notched.

- 1(4). Anterior tarsal joints symmetrical.
- 2(3). Tubercles varying in size, all distinct and in single series.
 - a.* Size large, broad; tubercles large, not clothed...*S. Waterhousei* Macl.
 - b.* Size large; tubercles smaller, clothed at base*S. Adelaide* Macl.
 - c.* Size moderate to large, narrower; tubercles distinct, smaller, more completely clothed.....*S. vittatus* Macl.
 - d.* Size moderate to smaller; tubercles less distinct, especially at the base of the third interstice, completely clothed*S. vittatus* Macl., var. ?
 - e.* As in *d*, but setæ yellowish (doubtful species).....*S. confusus* Macl.
 - f.* As in *c*, but without clothing above, setæ yellowish.....*S. irregularis* Macl.
- 3(2). Tubercles small, granuliform, in double series at base of third interstice*S. oblongatus*, n.sp.
- 4(1). Anterior tarsi asymmetrically dilatate on the inner side of the second and third joints in ♂.
- 5(8). Apical ventral segment tuberculate on either side of median channel in ♂.
- 6(7). Intrastrial ridges prominent; scape comparatively strongly incrassate*S. tristis* Boisd.
- 7(6). Sculpture more obliterate than in *S. tristis*; scape more slender*S. sordidus* Macl., (*S. acuminatus* Macl.).
- 8(5). Apical ventral segment without tubercles in ♂*S. inornatus* Ferg.

Subgroup B.—Intermediate tibiæ with a strong subapical emargination.

- 9(12). Prothoracic tubercles rounded.
- 10(11). Third elytral interstices costiform from base to edge of declivity.....*S. dimidiatus* Macl.
- 11(10). Elytral interstices regularly and evidently tuberculate.....*S. regularis* Ferg.
- 12(9). Prothoracic tubercles more or less elongate and obsolescent in the centre.

- 13(14). Size large, with tubercles small and obscured by the clothing
 *S. Mastersi* Macl.
 14(13). Size smaller, tubercles less obscured.
 15(16). Elytral tubercles comparatively large, elongate at base of
 third interstice *S. neglectus* Ferg.
 16(15). Elytral granules smaller, less elongate, reddish. *S. Carteri*, n.sp.
 Subgroup C.—Third and fifth elytral interstices costiform, second and
 fourth wanting.
 Clothing dense, light. *S. carinatus* Boisd.

Notes on the Table. — Distinctions of size and tuberculation can be regarded as correct only for typical specimens; intermediate forms have, perforce, been excluded.

S. Waterhousei includes *S. interioris* Macl.

S. Adelaide Macl., includes *S. nodulosus* Macl., and *S. divaricatus* Macl.

S. vittatus Macl., includes *S. Angasi* Macl., *S. rugicollis* Macl., *S. conspersus* Macl., and *S. fuscus* Macl.

S. vittatus Macl., var. ?, includes those forms wrongly identified by myself, in a previous paper, as *S. sordidus*.

S. tristis Boisd., includes *S. asper* Macl., and *S. Howitti* Macl.

S. sordidus Macl., includes *S. acuminatus* Macl.

S. obliteratedus Macl., has been omitted from the Table, as I am not certain of the male.

S. Spencei Bohem., probably belongs to this Group; but, as I am uncertain of its identity, I have omitted it.

SCLERORINUS ADELAIDÆ Macl.

Macleay, Trans. Ent. Soc. N. S. Wales, 1865, p.247; *S. divaricatus* Macl., *loc. cit.*, p.248; *S. nodulosus* Macl., *loc. cit.*, p.249; Lea, Trans. Roy. Soc. S. Aust., 1903, p.112.

The following description was drawn up from one of two female specimens standing under this name in the Macleay Museum. There is nothing to indicate which of the two is the actual specimen described by Macleay.

♀. Moderately large, relatively broad, elongate-ovate. Black; densely clothed with brownish pubescence, head with supra-orbital and median vittæ lighter, a dark brown patch on either

side of median line, prothorax trivittate, elytra with a lighter tint along suture, and a short vitta at humeral angle; beneath, maculate in centre and at sides of each ventral segment.

Head and rostrum in the same plane above, forehead with three bare longitudinal carinæ, continuous with the rostral carina, gradually merging into head near the vertex. Rostrum broad, hardly excavate; external ridges prominent, subparallel; median carina long, prominent, slightly convex in profile, more raised than on the head; sublateral sulci shallow, deeper at the base. Prothorax (5×6.5 mm.) strongly transverse, widest in front of middle; apical margin feebly rounded above, with prominent ocular lobes; subapical impression moderately distinct, median line scarcely impressed; tubercles moderately large, and moderately closely set, elongate, round towards sides, small and obsolescent immediately in the centre; on the sides, tubercles becoming obsolete towards coxæ. Elytra (13×8 mm.) broad, apex moderately produced; base evenly and rather deeply emarginate, humeri prominent; seriate punctures small, obscured by the clothing, intrastrial granules small, little prominent; interstices tuberculate, sutural with a short costa on either side at base, followed by a row of fine granules; second with four or five widely separated tubercles, not reaching base, nor extending down the declivity; third with a subcontinuous row of thirteen from base practically to apex, rounded towards base, more conical towards apex; fourth without tubercles; fifth with a continuous row duplicated in places, slightly smaller than on third, about seventeen pairs or single tubercles; sixth with a continuous row of ten, about the same size as those on the third, hardly conical. Sides with depressed, rounded, often confluent, tubercles. Beneath, convex, slightly flattened in middle of each segment. *Dimensions*: ♀, 20×8 mm.

The male differs in being more subparallel, and less produced at apex; the elytral tubercles are similar, but are in single series on the fifth interstice; the fifth ventral segment has a rather narrow median channel, bordered on either side by a small tubercle, situated posterior to the middle; the intermediate tibiæ are slightly emarginate but not deeply notched above the apex;

the anterior tarsi are simple. *Dimensions*: ♂, 19×7 ; prothorax 5×6 ; elytra 10×7 mm.

Hab.—South Australia.

The species presents considerable variation in size, and in the number and position of the elytral tubercles. On the third interstice, the tubercles are sometimes fairly closely set, and sometimes rather widely separated and fewer in number; the two sides of the elytra sometimes differ in this respect. *S. nodulosus* and *S. divaricatus* have already been sunk as synonyms by Mr. Lea, and I can see nothing in the types to warrant their separation.

SCLERORINUS WATERHOUSEI MacI.

Macleay, *loc. cit.* p.251; *S. interioris* MacI., *loc. cit.*, p.252; Lea, *loc. cit.*, p.112.

♂. Large, elongate, relatively broad, subparallel. Black; densely clothed with brownish subpubescence, the tubercles nitid, not clothed; ventral maculæ small.

Head and rostrum as in *S. Adelaidæ*. Prothorax (5×6.25 mm.) widest in front of middle, much as in *S. Adelaidæ*, tubercles, if anything, slightly larger, less elongate, with larger ones along the subapical impression. Elytra (12×7 mm.) broad, apex not produced, base deeply emarginate, humeri prominent; seriate punctures small, open, intrastrial granules rather more prominent; tubercles larger, the apical and lateral ones more conical; second with four; third with a subcontinuous row of eleven from base almost to apex; fourth with none; fifth with a continuous row of sixteen, slightly smaller, closely placed, almost imbricate, conical tubercles; sixth with a continuous row of eleven, slightly larger than on the fifth, conical, outwardly directed. Apical ventral channel rather narrow, in type obscured by dirt. Intermediate tibiæ slightly emarginate; anterior tarsi simple.

♀. Larger, more ovate, the apex more produced. Prothorax (6×7 mm.) with tubercles larger than in *S. Adelaidæ*, elongate near middle, rounded towards the sides. Elytra (14×9 mm.) broad, apex moderately produced; tubercles noticeably larger than in *S. Adelaidæ*, tubercle-index 2-3, 9-12, 0, 17, 15. Apical

ventral segment with a feeble linear impression. *Dimensions*: ♂ 19×7 ; ♀ 22×9 mm.

Hab.—South Australia. Type in Macleay Museum.

There are two specimens, sexes, under this label in the Macleay Museum, but the female appears to have been the actual type. Apart from the larger size in the female, and the larger, more conical, elytral tubercles, I can find nothing to separate this species from *S. Adelaide*. It is convenient, however, to retain this name for the larger form, though I much doubt if the species are really distinct. *S. interioris* is certainly conspecific, as has already been pointed out by Mr. Lea.

SCLERORINUS VITTATUS MacL.

Macleay, *loc. cit.*, p.249; *S. rugicollis* MacL., *loc. cit.*, p.250; *S. Angasi* MacL., *loc. cit.*, p.253; *S. conspersus* MacL., *loc. cit.*, p.250; *S. fuscus* MacL., *loc. cit.*, p.253; (?) *S. confusus* MacL., *loc. cit.*, p.251.

♂. Type, *S. vittatus* MacL.—Elongate subparallel, comparatively broad. Densely clothed with brown, trivittate and variegate with white, vittæ distinct on prothorax, on elytra forming a broad sublateral vitta, third interstice feebly maculate with white; setæ dark.

Head continuous with rostrum, external ridges subparallel, median carina distinct, extending up head, sublateral sulci shallow, foveiform at base. Prothorax (5×6 mm.) widest in front of middle, ocular lobes prominent; subapical constriction indefinite except at sides, median line marked by vitta hardly impressed; disc with tubercles distinct, somewhat depressed, elongate, irregular, at sides more rounded. Elytra (12×7 mm.) little dilatate, almost parallel-sided to before declivity, base arcuate, humeri marked. Disc with regular rows of small foveiform punctures, the intervening ridges setigerous, hardly granulate; tubercles small, subconical, larger nearer declivity, and more, though not greatly prominent, partially concealed by clothing; tubercular index 2, 14, 0, 23, 15; on third interstice, more or less continuous, becoming progressively larger posteriorly; on fifth and sixth, much smaller and with serrate appearance. Fifth segment with median channel, tubercles moderately close to apex.

Type ♀.—More robust than ♂, the prothorax (5×6.5 mm.) with tubercles rather larger and more conspicuous; elytra (12×8 mm.) with apex more produced, mucroniform, tubercles more separate on third interstice, tubercular index 5, 10, 0, 17, 15; beneath, convex, fifth segment feebly impressed longitudinally, and with a small, irregular, transverse fovea at apex. *Dimensions*: ♂ 18.5×7 ; ♀ 20×8 mm.

Hab.—S. Australia. Types in Macleay Museum.

The above description has been drawn up from the types, but many of the details of structure are liable to great variation; indeed it is hard to find two specimens agreeing in all particulars. I believe that Macleay was led into making too many species by not taking this variability sufficiently into account. I have examined the types of the other species I would refer to *S. vittatus*, and have noted same points of divergence from the types of this species.

S. rugicollis, type ♀.—Agrees in general appearance and structure with type ♀ of *S. vittatus*, but has the tubercles on the elytra rather more prominent, especially on the fifth and sixth interstices; tubercle-index 2, 8, 0, 17-14, 12. *Dimensions*: P., 5×6.5 ; E., 11×8.5 ; 20×8.5 mm.

S. Angasi MacL.—Two female specimens, evidently of one species, under the name-label in the Macleay Museum. Of the same form as *S. vittatus*, but with the tubercles rather less prominent and fewer in number, variable in shape and number in the two specimens.

Very close to *S. conspersus*, and possible females of that form, if it can be considered distinct from *S. vittatus*. Tubercle-index, A, 2, 8, 0, 13, 10; B, 4, 8, 0, 14, 10.

S. conspersus MacL., type ♂.—As there is some difference in general facies between the species and the type ♂ of *S. vittatus*, I have thought it wiser to give a fuller description of the type-specimen.

♂. Smaller than *S. vittatus*, type ♂, elongate-ovate, not subparallel on sides. Clothing similar, the vittæ well marked, also the interrupted maculæ on the third interstice. Head and rostrum as in *S. vittatus*. Prothorax (4.5×5.5 mm.) widest

before middle, ocular lobes prominent; subapical constriction fairly definite, median line hardly impressed; set with small, separate, distinct though slightly depressed tubercles, somewhat irregular in size and distribution. Elytra (10×6.5 mm.) gently and evenly widened from base to behind middle, thence more rapidly rounded off to apex; base, humeri, seriate punctures as in *S. vittatus*; interstices tuberculate, on second and third small, subconical, projecting backwards, degree of conicity increasing from before backwards, on second tubercles extending half-way down declivity, on third forming a row of separate tubercles from base to apex; fifth and sixth interstices each with a continuous row of smaller tubercles, having somewhat a serrate appearance; tubercle-index 3-4, 9-10, 0, 16, 11. Beneath, as in *S. vittatus*. *Dimensions*: ♂, 16.5×6.5 mm,

Apart from size, and variation in the number of the elytral tubercles, the main differences seem to be—(a) a slight difference in shape, (b) prothoracic tubercles more rounded than elongate, (c) slightly smaller elytral tubercles. None of these differences seem to me as of specific value.

The confusion one feels, when comparing the types, is not allayed but rather intensified by the examination of a series of specimens. Among a number of *Amycterides* sent for examination from the South Australian Museum, are several specimens I would refer to this species. Among them, I note the following forms.

1. Specimens agreeing with type of *S. vittatus*; males without exact locality-label.

2. Specimens labelled Grange, S. Aust., in shape and general appearance agreeing with *S. conspersus*, but with decidedly larger elytral tubercles, and less distinct prothoracic ones.

3. Specimens from Androssan, S. Aust. An extensive series of both sexes. The males are close to *S. vittatus* (typical) but smaller, with the tubercles on the third interstice more separate. The females are larger, and correspond to *S. vittatus* ♀, but show considerable variation, *inter se*, in the elytral tubercles. The colour of the setæ, though generally dark, is, in one or two specimens, light brown or yellow, showing an approach to *S. confusus*.

The two following species I would also refer to *S. vittatus*, though with somewhat more doubt.

S. fuscus MacI. —The type is a male, and is somewhat shorter than *S. vittatus*, and uniformly clothed with dingy brown; the tubercles are slightly smaller, round, not conical, forming a continuous row on the third interstice.

S. confusus MacI. —The type is a partially abraded female, with rather smaller tubercles than usual, set at intervals on the third interstice. The setæ are light-coloured.

SCLERORINUS IRREGULARIS MacI.

Macleay, *loc. cit.*, p.263.

♂. Elongate-ovate; moderately large. Black; without clothing, except a feeble macule in the centre of the third and fourth ventral segments; setæ yellowish.

Head convex, flattened in front, running on into rostrum; rostral ridges extending on to head. Rostrum wide; the external ridges slightly sinuate; median carina narrow, prominent; sublateral sulci broad, shallow, with a deeper fovea at base; a small puncture present in the middle line at junction of head and rostrum. Prothorax (4×5 mm.) moderately dilatate, with a well marked subapical impression; closely set with rather large tubercles, elongate near middle, more rounded towards sides; sides with granules obsolescent. Elytra (11×7 mm.) moderately broad, gradually widened posteriorly; base gently emarginate, humeral angle with a small rounded tubercle; seriate punctures evident, small, open, each subtended by a small granule; interstices tuberculate, tubercles small, rounded, conical posteriorly; second interstice with five tubercles, extending on to declivity; third with eight, at varying distances from base down on to declivity; fourth with three or four about the middle; fifth with a continuous row of seventeen to twenty, rather closely set, rounded, rather smaller than on third interstice; sixth with a continuous row of ten or eleven, outwardly and backwardly projecting. Apical ventral segment with a rather broad median channel, bordered on each side by a small tubercle, the channel somewhat transverse beyond the tubercles. *Dimensions*: ♂, 17×7 mm.

Hab.—South Australia. Type in Australian Museum.

Although I have described the type in some detail, I am by no means certain that it is a valid species. The specimen strongly suggests an abraded form of *S. vittatus*, with the tubercles on the third interstice situated at intervals. The lack of clothing is so complete, that it is hard to believe the specimen could have been artificially abraded. The light-coloured setæ are also a point of distinction. Unfortunately, I have not been able to compare *S. irregularis* with *S. confusus*, as the types are in different collections. From my recollections of *S. confusus*, the type of *S. irregularis* appeared a rougher insect, with more evident, intrastrial granules and somewhat larger tubercles.

SCLERORINUS OBLONGATUS, n.sp.

♂. Size moderate, elongate, suboblongate. Black; densely clothed with dark brown subpubescence; head and prothorax trivittate with greyish, the median vitta divided into two on the head and rostrum; elytra with a broad vitta along each side of disc, subdivided by the fifth interstice, and with whitish maculæ forming a row along each side internal to the third interstice; sides with scattered whitish subpubescence most marked along lower border; undersurface with similar clothing at sides of segments; legs with intermingled white and yellowish subpubescence along upper and outer surfaces; setæ dark.

Head and rostrum very gently convex above in profile; forehead with a median, lævigate, subcarinate line. Rostrum little excavate above; external ridges parallel; median carina prominent, narrow; sublateral sulci broad, shallow, with deeper basal fovæ. Prothorax (4.5×5 mm.) moderately rounded on the sides; apical margin gently sinuate above, with prominent ocular lobes; disc with a moderately definite subapical impression, and a longitudinal median impression; set with small, subobsolete, flattened granules, for the most part elongate, more rounded at the sides; sides with granules becoming obsolete towards the coxæ. Elytra (10×6 mm.) elongate, little widened posteriorly; apex strongly rounded; base trisinate-emarginate, the humeral angles somewhat advanced, prominent, not tuberculiform; seriate

punctures small, shallow, the intrastrial granules distinct, the whole confused and somewhat asperate; interstices with small, granuliform tubercles; second interstice with a few, small, isolated tubercles, little conspicuous, not extending to base, one or two present on the declivity; third interstice raised, in type, basal half costiform, with small, elongate, subobsolete granules, set in an irregular, double series, apical portion with more isolated, single tubercles; fourth with small, isolated, granuliform tubercles, hardly distinct from the intrastrial granules; fifth somewhat raised, with a single row of closely-set, rounded, granuliform tubercles; sixth with a similar row, not reaching base; sides with tubercles almost obliterated, separated by impressions, giving sides a rather feeble, vertically-rugulose appearance. Undersurface gently concave over metasternum and basal segment; fifth segment with a rather narrow, deep, median channel, leading into a transverse apical depression, the median channel bordered on either side by a small tubercle. Anterior femora not ridged beneath; tibiae not notched; anterior tarsi symmetrical.

♀. More ovate, more produced at apex, each elytron separately mucronate; undersurface convex, fifth segment with apical margin not strongly bisinuate, with a median linear impression. *Dimensions*: ♂, 16 × 6 mm.; ♀, 15 × 6.5 mm.

Hab.—Victoria, Nelson (Blackburn). Type in South Australian Museum.

In general appearance, this species resembles more the *tristis*-than the *Adelaidæ*-portion of the group; to the latter, however, the simple tarsi will ally it. From most of its immediate allies, the small granuliform tubercles will separate it. The species doubtfully identified as *S. obliteratus*, from Mt. Buffalo, agrees with the present species in the small, granuliform tubercles; but there are numerous small differences, among others, the intrastrial granules are less distinct; the females also are very different.

In the type, the tubercles at the base of the third interstice are more or less coalescent, forming a costa; in other examples, however, the tubercles are more distinct, and this portion of the interstice could not be termed costiform.

The female is very similar in appearance to *S. acuminatus*, having a similar, apical, ventral segment; the elytra, however, are more granulose, and the males are certainly distinct, provided I am right in regarding *S. acuminatus* as the female of *S. sordidus*.

SCLERORINUS TRISTIS Boisd.

Amycterus tristis Boisd., Voy. de l'Astrolabe, ii., 1835, p.388, t.7, f.12; *S. tristis* Macl., loc. cit., p.259; *S. Howitti* Macl., loc. cit., p.257; *S. asper* Macl., loc. cit., p.254; Lea, Trans. Roy. Soc. S. Aust., 1903, p.112.

♂. Elongate, subparallel. Black; more or less densely clothed with brownish pubescence, prothorax more or less evidently trivittate with grey, ventral segments feebly maculate in middle.

Head and rostrum in the same plane above; lateral ridges traceable, but hardly raised, along head; median line lævigata, but not carinate. Rostrum little excavate; external ridges parallel; median carina narrow, strongly raised, separated from head by a punctiform depression; sublateral sulci shallow, deeper at base, moderately broad. Scape rather short, moderately strongly incrassate. Prothorax (4×5 mm.) rather widely dilatate, strongly rounded on the sides; apical margin sinuate above, ocular lobes strong; subapical transverse impression, and median impressed line moderately distinct; set with obsolescent, elongate granules, frequently confluent to form irregular ridges, setigerous, the setæ arising from the posterior end, granules most distinct towards the middle, almost completely obsolete laterally; sides with a few obsolete, rounded, granules above. Elytra (9.5×5 mm.) little widened on the sides; base gently emarginate, humeri not produced, subrectangular. Disc with sculpture much confused, the punctures moderately distinct, but irregularly arranged, the intervening ridges moderately prominent, often confluent across the interstices; interstices not raised, tuberculate; tubercles low, elongate towards the base, more raised, and more rounded, posteriorly, but hardly subconical, generally more or less separated, sometimes confluent at base of third or fifth interstices; fifth interstice generally with tubercles separated, sometimes forming

a subcontinuous row ; in other specimens, almost obsolete. Apical segment with the median channel rather shallow, bounded on either side, posteriorly, by a small tubercle. Anterior tarsi with the third, and to a less extent the second, joint asymmetrically dilatate internally, spongiöse beneath.

♀. Elongate-ovate. Head, rostrum, and prothorax as in the male, except that the prothorax is slightly less dilatate. Elytra more strongly rounded on the sides, base moderately and gently emarginate; each elytron much produced at apex, and separately mucronate; sculpture much as described in the male. Under-surface convex; apical segment with a shallow median impression, deepened posteriorly, the borders here raised into a short tubercle; apical margin not bisinuate. *Dimensions*: ♂, 14 × 5; ♀, 15 × 6 mm.

Hab.—Tasmania; Victoria; South Australia.

After careful examination of many specimens, I have come to the conclusion that *S. Howitti* MacL., and *S. asper* MacL., cannot be separated from *S. tristis* Boisd. I am inclined to think that two species are included under *S. asper*, the male approaching closely to *S. sordidus*, while the female is certainly the same as *S. tristis*. The males of *S. tristis* and *S. sordidus* are very similar, but the two species are readily separable by the females. As the females are sometimes more easy to determine than the males, the following short table of the females of the allied species may be of service:—

A. Apical ventral segment tuberculate.	<i>S. tristis</i> Boisd.
AA. Apical segment not tuberculate.	
B. Apical margin not strongly bisinuate.....	<i>S. sordidus</i> MacL.
BB. Apical margin strongly bisinuate.....	<i>S. obliterated</i> MacL.;
	<i>S. inornatus</i> Ferg.

SCLERORINUS OBLITERATUS MacL.

Macleay, *loc. cit.*, p.255.

♀. Elongate-ovate, rather strongly produced at apex. Black; clothed rather densely with dingy brown subpubescence; setæ dark.

Rostrum hardly excavate; the median carina narrow, raised, running on to head; lateral ridges subparallel; sublateral sulci broad, slightly depressed at base only. Head and rostrum in the same plane above. Prothorax (4×5.5 mm.) subtruncate above, with moderately prominent ocular lobes; disc with elongate, semi-obliterated granules, irregularly arranged in longitudinal lines, the setæ arising from the posterior end of each granule. Elytra (12×7.5 mm.) gently narrowed to apex, which is much produced and bimucronate; seriate punctures small, obscured by clothing, set in irregular wavy lines, subtended by small granules. Interstices with small tubercles or granules, elongate, narrow, forming rather obsolete costæ at base; beyond the middle, the tubercles small, rounded, isolated; fourth with one or two only, about middle; sixth with tubercles closer, giving interstice a serrate appearance. Beneath, gently convex; the apical segment somewhat flattened, with a faint, median, impressd line, deeper at extreme apex, the apical margin, as viewed on edge, strongly bisinuate. *Dimensions*: ♀, 18×7.5 mm.

Hab.—Victoria.

The above description was drawn up from the type in the Macleay Museum. Though in general appearance close to *S. tristis*, I have no doubt that it is distinct on account of the difference in the ventral apical segment in the female. In *S. tristis*, this shows a small tubercle on either side of the median impression near the apex; in *S. obliteratus*, these are not present; moreover, in *S. tristis*, the apical margin is straight, not strongly bisinuate as in *S. obliteratus* MacL.

Unfortunately, I have never been able to obtain a pair, of which the female was absolutely identical with *S. obliteratus*. Two species approach it closely, however; one is *S. inornatus*, which has an even more obliterate sculpture; the other is from the Victorian Alps, and is more strongly sculptured, but is variable in this respect. Provisionally, I would regard this latter species as *S. obliteratus*. The male may be readily distinguished from *S. tristis*, *S. sordidus*, and *S. inornatus* by the anterior tarsal joints, not asymmetrically dilatate on the inner side.

SCLERORINUS SORDIDUS MacI.

Macleay, *loc. cit.*, p.254; *S. acuminatus* MacI., *loc. cit.*, p.255

♂. Size moderate; elongate, subparallel. Black; rather sparsely clothed with minute, depressed subpubescence; setæ black.

Head and rostrum much as in *S. tristis*; the antennal scape rather longer. Prothorax (4×5 mm.) widest in front of middle; subapical impression rather indefinite, median line not impressed; rather closely set with small granules elongate in the middle, rounded at the sides, little prominent, but less obliterated than in the female. Elytra (10×6 mm.) elongate, subparallel, base rather feebly emarginate, humeri subrectangular; seriate punctures small, in tortuous rows deflected by the tubercles; intra-strial ridges small, hardly granulate, setigerous; interstices tuberculate: sutural slightly raised, feebly granulate, more strongly granulate on declivity; second with two isolated tubercles; third with two or three conjoined, at base, and five isolated tubercles, the interstice very feebly raised between the tubercles; fourth with a single tubercle; fifth with ten or eleven, the basal eight small, subcontinuous, from humeral angle to about middle, followed by three larger tubercles, set farther apart; sixth with a continuous row of thirteen, small, slightly elongate tubercles, little prominent, not conical, nor outward projecting, their apices directed backwards. Sides with interstices obsoletely granulate. Apical ventral segment with a narrow median channel, a small tubercle on either side. Anterior tarsi with second and third joints asymmetrically dilatate on the inner side, the third the larger, and spongiöse beneath.

♀. (*S. acuminatus*, type).—Head and rostrum similar; prothorax (4×5 mm.) with granules almost obsolete, forming slightly raised ridges arranged in longitudinal wavy lines. Elytra (10×6.5 mm.) with apex rather less strongly produced than in *S. obliteratus*, bimucronate; punctures similar, tubercles small, slightly elongate, not costiform at base; fifth interstice with a row of small, almost minute, tubercles, moderately closely set. Apex of abdomen in type retracted and not visible. *Dimensions*: ♂, 17×6 ; ♀, 16×6.5 mm.

Hab.—South Australia. Types in the Macleay Museum.

This is not the species recorded by me as *S. sordidus* Macl., in the Trans. Roy. Soc. South Australia, 1914, p.18, but is the same as *S. acuminatus* Macl. My previous error was due to overlooking the tarsal structure, which at once separates *S. sordidus* from the previously identified species, which I tentatively regard as a variety of *S. vittatus*. The male is close to *S. tristis*, but has a less asperate structure; the female is distinguished by the non-tuberculate apical ventral segment, the apical margin of which is not bisinuate.

SCLERORINUS SPENCEI Bohem.

Bohemann, Schönh., Gen. Curc., vii.(1), 1843, p.64.

The description of this species shows clearly that it is a *Sclerorinus*, and also a member of Section i. It is evidently very closely allied to, if not identical with, *S. obliteratus* Macl. The apical abdominal segment is described in the following words—"segmento ultimo abdominis apice utrinque emarginato, supra foveola rotunda insculpto." The first part would fit *S. obliteratus*, *S. inornatus*, and *S. carinatus*; the latter part, however, is not an accurate description of any of these species. In *S. obliteratus* and *S. inornatus*, there is a longitudinal impression leading into a more or less rounded depression at the extreme apex. The following details of description fit *S. obliteratus* with more or less exactitude—"Thorax . . . tuberculis et rugulis subremotis, parum elevatis obsitus Elytra apice dehiscentia, singulatim breviter mucronata, . . . obsolete striatopunctata, sutura interstitiisque 2, 4 et 6 magis elevatis, tuberculis parvis, remotis, subconicis, seriatim obsitis,"

The description of the eyes as "parvi, subrotundati," and of the rostrum as ". . . supra utrinque profunde lateque longitudinaliter impressum . . .," however, is hardly an accurate description of these structures in *S. obliteratus*. At the same time, the description, as a whole, fits *S. obliteratus* Macl., much more closely than any other species known to me.

Among some *Amycterides* sent to Mr. Lea, some years ago, for examination, from the British Museum, were two males of a species I identified at the time (and I believe correctly), as *S.*

irregularis MacI. One of the two specimens bore three names—*elongatus*, *lachrymosus*, and *Spencei*—and was also marked “compared with type”, which type was not indicated. There was also a note, which I attributed to Pascoe (I do not now remember on what authority)—“Judging from notes, this should be the ♂ of insect named *Spencei* in Hope’s Collection—my *lachrymosus* var.” I have not now a female of *S. irregularis* available for comparison with the description of *S. Spencei*, but do not think it at all likely that the two species are identical. *S. elongatus* is certainly distinct from *S. Spencei* and *S. irregularis*, and belongs to Section ii.

SCLERORINUS MASTERSI MacI.

Macleay, *op. cit.*, 1866, p.323.

♀. Large, robust, elongate-ovate. Clothing moderately dense, yellow, variegate with white, prothorax trivittate, a triangular brown patch present on each side of middle of head; beneath, feebly maculate with cinereous at sides and in the centre of each segment, apical segment more uniformly clothed.

Head separated from rostrum by a moderately well defined transverse impression; centre of forehead subcarinate, lightly impressed on either side, external ridges not carinate on head. Rostrum as wide as head, external ridges subparallel; median carina conspicuous, rather broad, a small fovea present at junction with head; sublateral sulci rather deep at base, becoming shallower anteriorly. Eyes subovate. Prothorax (6×7.5 mm.) widest in front of middle, not greatly ampliate; ocular lobes well defined; disc with feeble median and sublateral impressions; set with isolated, rather small, somewhat depressed, briefly elongate granules; sides with granules smaller and rounded, extending almost to coxæ. Elytra (15×10 mm.) subparallel on sides to beyond, thence rather strongly narrowed to apex, each elytron separately produced at apex, mucroniform, dehiscent; base evenly and gently marginate, humeri noduliform, not greatly produced. Disc with rows of small, rather shallow, but moderately well defined punctures, each subtended by a fine setigerous granule. Interstices feebly raised, with small elongate tubercles;

sutural thickened and out-turned, subgranulate at base; second with four; third with about ten, elongate tubercles from base to middle, more separate and feebly conical posteriorly to middle; fourth with one or two; fifth and sixth each with a row of small rounded tubercles, placed fairly close together, but not contiguous, about twenty in each row. Sides with tubercles hardly raised above general surface. Beneath gently convex; fifth segment with a shallow, median, linear impression from base to apex, widening out into a shallow, ill-defined depression at apex.

Dimensions : ♀, 25 × 10 mm.

Hab.—South Australia.

Described from one of two female specimens in the Australian Museum. It is hard to be certain if either of these specimens is the type, and not the Macleay Museum specimens. There is a male in the Macleay Museum labelled *S. Mastersi*, and evidently conspecific; it has the intermediate tibiæ notched.

SCLERORINUS DIMIDIATUS MacL.

Macleay, *loc. cit.*, p. 324.

♂. Elongate, subparallel. Black; clothing sparse, yellowish, head with two brownish patches separating the supraorbital and median vittæ, median vitta divided into two, and extending on to the sublateral rostral sulci; ventral segments with a median golden macule, and a lighter lateral one.

Rostrum rather narrow across the dorsum; median carina prominent, rather broad; sublateral sulci narrow, extending back, somewhat, on to head. Head not separated from rostrum above, with three lævigata lines continuous with the rostral carinæ, a small fovea present in middle line at junction with rostrum. Prothorax (4.5 × 5.5 mm.) with apical margin feebly rounded, almost truncate above, and with rather prominent ocular lobes; median line not impressed; moderately closely set with rounded, somewhat depressed, granules, somewhat variable in size. Sides sparingly granulate. Elytra (11.5 × 6.5 mm.) long, almost parallel-sided; base slightly emarginate, humeral angles not produced; with striæ of very shallow foveiform punctures; first interstice subcostate, little prominent, tending to split up into

granules; second almost obsolete, with one or two small elongate tubercles; third prominent, subcostate to declivity, the costa consisting of a contiguous row of elongate tubercles, with two or three subconical tubercles on the declivity; fourth obsolete; fifth and sixth each with a continuous row of small tubercles placed close together, giving interstices a costiform appearance, less elongate and more conical posteriorly. Apical ventral segment with a shallow, median, longitudinal channel. Anterior femora with a feeble scar beneath; intermediate tibiæ notched at apex. *Dimensions*: ♂, 18 × 6.5 mm.

Hab.—South Australia, Flinders Range. Type in Australian Museum.

Though closely allied to *S. regularis* and *S. neglectus*, this species can be distinguished by its round, prothoracic granules, in conjunction with the costiform interstices, and deeper punctures.

SCLERORINUS CARTERI, n.sp.

♂. Size moderate; elongate, subparallel. Black, elytral tubercles reddish, legs piceous. Rather sparsely clothed with minute, light brown or greyish, subsquamosity; a narrow creamy vitta along the lower edge of elytra; undersurface almost without clothing, ventral segments feebly maculate in middle. Setæ black, rather long.

Head and rostrum in same plane above; head rather densely clothed except along three bare lines, these continuous with the rostral carinæ, but not definitely raised. Rostrum with external ridges setigero-punctate, slightly thickened at base; median carina prominent, as broad as the external ridges, not setigerous; sublateral sulci rather narrow, deep at base, becoming shallow anteriorly. Prothorax (4 × 5 mm.) moderately strongly rounded on sides, widest in front of middle; ocular lobes prominent; subapical impression moderately distinct, median impression well marked posteriorly; disc closely set with small setigerous granules, obsolescent and slightly confluent towards the centre, more distinct and rounded laterally; sides granulate. Elytra (10 × 5.5 mm.) elongate, narrow, little widened posteriorly; base

gently emarginate, the humeral angles marked, not greatly produced; seriate punctures small, moderately deep, somewhat irregularly set, the intrastrial granules moderately distinct. Interstices with small reddish tubercles, the basal ones slightly elongate, the apical ones conical; sutural interstice slightly raised, not tuberculate; second interstice with about four, widely spaced, from middle to near apex; third with a row of eight to ten, widely spaced, rather closer together anteriorly, extending from base nearly to apex; fourth without tubercles; fifth with a more closely set row, extending from humeral angle down declivity, thirteen on one side, and sixteen on the other in the type; sixth with a similar row of about eleven. Sides with tubercles subobsolete. Moderately closely setigero-punctate beneath; basal segments flattened in the middle; fifth with a moderately deep median channel, not reaching apex, bordered, on either side, by a small tubercle, situated posteriorly to middle. Anterior femora not ridged beneath; intermediate tibiae with a strong subapical notch. Anterior tarsi with third joint spongiose beneath, broader than first joint, the inner half broader than the outer; other tarsi not spongiose.

♀. More ovate, more produced at apex, each elytron separately, bluntly acuminate; undersurface convex, fifth segment feebly, longitudinally impressed; tibiae much more feebly notched, tarsi simple. *Dimensions*: ♂, 16×5.5 ; ♀, 17×6.5 mm.

Hab.—Western Australia, Bridgetown (H. J. Carter). Type in Coll. Ferguson.

Closely allied to *S. neglectus*, this species may be distinguished by the smaller, more reddish elytral tubercles, and by the more distinct intrastrial granules. The asymmetry of the third anterior tarsal joint, though distinct, is less evident, in this subgroup, than in *S. tristis* and its allies. *S. Carteri* is the first species of Section i. to be described from the far west of the continent.

Other species belonging to Group i.

Under this and similar headings in each group, I propose to list those species recently described, of which recognisable de-

scriptions are extant, and which are not separately noted elsewhere. The species are listed here in order to record their habitats; reference to the descriptions will be found in the introductory portion of this paper, under the describer's name.

S. neglectus Ferg.—South Australia, Port Lincoln.

S. regularis Ferg.—South Australia, Gawler Ranges.

S. carinatus Boisd.—New South Wales, Bombala. I think it probable that Boisduval's name will eventually be sunk as a synonym of *S. nigrospinosus* Don.

S. albovittatus Ferg.—Western Australia, Eucla. This species, though not included in the table of the Group, I regard, with some doubt, as a member of Section i. It might, perhaps, be better placed at the end of the genus, as an aberrant species.